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AMSAT NEWS SERVICE
ANS-206

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor(a)amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

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ANS-206 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2021 July 25

AMSAT's 39th Annual Space Symposium and Annual General Meeting To Be Held October 29-31

The 39th AMSAT Space Symposium and Annual General Meeting will be held Friday through Sunday, October 29-31, 2021, at the Crowne Plaza AiRE in Bloomington, Minnesota. Crowne Plaza AiRE is located at 3 Appletree Square, Bloomington, MN 55425.

The Crowne Plaza AiRE is adjacent to the Minneapolis-St. Paul International Airport and only steps away from the METRO Blue Line□s American Blvd. stop. Nearby shopping and tourist attractions include Mall of America, SEA LIFE at

Mall of America, Nickelodeon Universe, and the Minnesota Zoo.

The Symposium includes presentations, exhibit space, and the AMSAT Annual General Meeting. The preliminary schedule is presented below.

The AMSAT Board of Directors Meeting will be held before the Symposium, October 28-29, at the same hotel.

You can make hotel reservations by calling the hotel directly at (952) 854-9000 or (877) 424-4188 (toll free) or online by visiting crowneplazaaire.com. The group name is Amateur Satellite Group.

Registration is available on AMSAT's Member Portal at https://launch.amsat.org/Events

Preliminary Schedule of Events (subject to change)
Thursday, October 28, 2021

0800 □ 1200 AMSAT Board Meeting
1200 □ 1300 AMSAT Board Lunch Break
1300 □ 1700 AMSAT Board Meeting
1600 □ 1900 Registration

Friday, October 29, 2021

0800 □ 1900 Registration
0800 □ 2100 Space Exhibit
0800 □ 1200 AMSAT Board Meeting
1200 □ 1300 AMSAT Board Lunch Break
1300 □ 1700 AMSAT Space Symposium presentations
1700 □ 1900 Dinner Break
1900 □ 2130 AMSAT Reception, cash bar available

Saturday, October 30, 2021

0800 □ 1600 Registration
0800 □ 2100 Space Exhibit
0800 □ 1200 AMSAT Space Symposium presentations
1200 □ 1300 Lunch Break
1300 □ 1500 AMSAT Space Symposium presentations
1500 □ 1700 AMSAT Annual General Meeting
1800 □ 1900 Attitude Adjustment (reception)
1800 □ 2200 Cash Bar
1900 □ 2200 Banquet

Sunday, October 31, 2021

0700 □ 0900 AMSAT Ambassadors□ Breakfast

NOTE: All times are Central Daylight Time (CDT), UTC □ 5 hours

[ANS thanks the 2021 AMSAT Symposium Committee for the above information]

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The nomination period for the 2021 Board of Directors Election ended on June 15, 2021. The following candidates have been duly nominated and their candidate statements can be found at link that follows:

Joseph Armbruster, KJ4JIO
Robert Bankston, KE4AL
Jerry Buxton, N0JY
Zach Metzinger, N0ZGO

In accordance with our Bylaws, AMSAT must hold an election, even though we have four nominations for four open Director positions. As such, we will host electronic voting on our Member Portal this year, at no cost to the organization. Voting is now open and will close on September 15, 2021.

When members click on the poll link, they will see their ballot (poll question). After choosing from the possible options, click the Submit button to cast your vote. Unlike many online polls, the results of all votes cast, up to the point of your vote, will not be displayed. AMSAT members can only vote once. If you click the poll link again after already voting, a vote submitted message will be displayed. As four seats on the Board of Directors are up for election this year, all four candidates will be seated on the Board when the voting period concludes on September 15, 2021.

To read candidate biographies see:
https://launch.amsat.org/2021-BoD-Election

AMSAT members may access their ballots at:
https://launch.amsat.org/Sys/Poll/25943

[ANS thanks Jeff Davis, KE9V, AMSAT Secretary, for the above information]

23cm band and Sat-Nav Coexistence: Preliminary Studies considered in ITU-R WP4C

During the period 5□13 July 2021, the preparatory work for WRC-23 agenda item 9.1b continued in ITU-R Working Party 4C (WP4C). (See Region 1 Feb 23rd news item for further background). The IARU member representatives from Australia, Brazil, Canada, Germany, Japan, Norway, UK and USA, participated in the meeting and delivered additional information on amateur activities in this key microwave band.
Preliminary studies came from France based on the ongoing CEPT work to provide initial estimates of separation distances required between RNSS GALILEO receivers and a sample of amateur emissions. The European Commission GALILEO team provided a set of observations pertaining to a RNSS interference event in northern Italy.
More information is on the IARU page at: https://bit.ly/3kKEmRq

[ANS thanks The IARU and Barry Lewis, G4SJH for the above information]

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The AMSAT Engineering and Operations Teams are pleased to announce that AO-109 (RadFxSat-2/AMSAT Fox-1E) is now open for amateur use. Users are advised to use efficient modes such as CW or FT4 for making contacts, since issues with the satellite make SSB voice contacts challenging at best.

Please see the May/June 2021 issue (Vol. 44, No. 3) of The AMSAT Journal for an article by Burns Fisher, WB1FJ, and Mark Hammond, N8MH, detailing the various attempts to characterize AO-109 and its apparent problems.

On behalf of the Engineering and Operations Teams--

73,
Jerry, N0JY and Drew, KO4MA

AO-109 Frequencies
Inverting Linear Transponder
Uplink 145.860 MHz - 145.890 MHz
Downlink 435.760 MHz - 435.790 MHz
1k2 BPSK Telemetry 435.750 MHz (non-operational)

[ANS thanks AMSAT Vice President - Engineering Jerry Buxton, N0JY, and AMSAT Vice President - Operations Drew Glasbrenner, KO4MA, for the above information]

New operational reports on FO-29 and AO-109

In a recent email, Hideo Kambayashi, JH3XCU has kindly translated the August 2021 operational schedule for FO-29: "FO-29 operation schedule for Aug. 2021 (UTC) 1st 11:48- 7th 01:14- 11:33- 13:16- 8th 00:19- 10:35- 12:22- 14th 00:04- 10:20- 12:07- 23:09- 15th 11:12- 12:56- 17th 00:48- 02:35- 11:06- 12:52- 21st 00:38- 02:25- 10:56- 23:45- 22nd 09:59- 11:45- 27th 23:30- 28th 09:45- 11:30- 22:35- 29th 00:18- 10:35-
Source:https://www.jarl.org/Japanese/3_Fuji/fuji3-202107.htm

Considerable discussion of AO-109 activity has occured on the AMSAT-NA email reflector. Chris Burns writes: "I guess our friend AO-109 must have been just waiting for us to open it up for amateur use before sending some telemetry :-)
Seriously, thanks to SatNogs, we found some telemetry that was recorded on May 10 just after we cranked up the modulator gain. In addition, a SatNogs observation today, July 21, also shows signs of weak telemetry.
We'd appreciate it if anyone who has a station that can receive telemetry, especially stations with good gain and tracking ability, could listen for AO-109 telemetry on 435.750. If FoxTelem is all you have that's great, but if you also have some way to capture the signal in a file (say IQ recording in HDSDR) that would be even better. Chances are the signal is weak enough that it might need some teasing by our experts before we can get any info out of it.
I'll also schedule some SatNogs observations, and anyone who has a SatNogs station with similar characteristics (gain antenna etc), please schedule some of your own over the next few days!"

Chris Thompson, AC2CZ/G0KLA adds: "But, let me remind everyone that the prize and glory for receiving and decoding the first telemetry is still available. I could partially decode the data that Mark supplied by turning off the Forward Error Correction and decoding the bytes between the sync words - errors and all. It is quite a challenge to receive decodable frames but it is surely possible. See if you can be the first to post decoded frames. If you are not set up to decode frames but have a good recording, then send it to me and I will attempt to decode it. The prize will be yours all the same.

As an example, the ITR waterfall is just not quite decodable: https://network.satnogs.org/observations/4453728/. But it is close. If you can do better than that then the prize could be yours.

Mark Jessop, VK5QI, also provides the following: "I've scheduled more observations on the ITR ground station, which is not usually schedulable by most SatNOGS users (the station is in testing).
The ITR station is using a large ZCG-Scalar Cross-Yagi, phased for RHCP. Gain is approx 14 dBd. A picture of the station is here: https://network-satnogs.freetls.fastly.net/media/ground_stations/20170911_140358.jpg. Worth noting that only one of those cross-yagis is hooked up at the moment."

[ANS thanks Hideo Kambayashi, JH3XCU of JAMSAT, Burns Fisher WB1FJ AMSAT Flight Software, Chris Thompson, AC2CZ, and Mark Jessop VK5QI for the above information]

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the Sun, but still on a straight line between the Sun and Earth as Earth revolves around the Sun. Only a solar sail can provide the forces necessary to maintain such an otherwise unstable orbit, since doing so requires constant fuel. This is a testbed for future, even more ambitious missions.

[ANS thanks The Orbital Index for the above information]

10th annual NASA Space Apps Challenge

Registration is open for the 10th annual NASA Space Apps Challenge. NASA is inviting coders, entrepreneurs, scientists, designers, storytellers, makers, builders, artists, and technologists to come together in a global, virtual hackathon the weekend of October 2-3, 2021. During a period of 48 hours, participants from around the world will come together to create virtual teams and solve challenges using NASAs open-sourced data.
See https://www.spaceappschallenge.org/ for information and registration details.

[ANS thanks NASA for the above information]

ARISS NEWS

No ARISS activities are being reported for the coming week. The ARISS status page below explains.

The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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Major Roves:

WA7AA:
July 25-27 DN64 holiday style
July 30-31 DN63 holiday style

The remaining parts of this trip will be camping in remote areas with little to no internet or Twitter. I will get info out as I can, but I won't be able to setup skeds ahead of time. Lots of POTA activations on Sats and HF as well.

I will be operating as F4DXV/P from several different grids over the next 2 weeks of my vacation (holiday's style mode & weather permitting of course)

>From Jérôme F4DXV: My current plans for NA, look like this:
JN14 on July 25th: RS-44 13utc (during the trip therefore not guaranteed with traffic)
JN15 on July 26th: AO-7 08:40utc
JN05 on July 28th: AO-7 08:35utc
IN96 on August 01: FO-29 12:00utc
IN96 on August 06: AO-7 18:12utc
JN06 on August 09: RS-44 11:42utc (on my return trip so not guaranteed with traffic)
IN94 on August 16: RS-44 10:40utc
Please look for me ~145.938 for AO-7 , ~435.660 for RS-44 & 435.640 for FO-29 Hope to CU there

Tyler Nicolas, WL7T has been busy Tweeting his roves. The latest: "Plan to be in BP42 Friday evening, BP53 Saturday evening, and the big one BP63 (a difficult grid to get to) on Sunday.

Please submit any additions or corrections to Ke0pbr (at) gmail.com

[ANS thanks Paul Overn, KE0PBR, AMSAT rover page manager, Jérôme LeCuyer,F4DXV and Tyler Nicolas, WL7T for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

No upcoming events currently scheduled.

Think a 90-minute lively, informative, and fun "How to Work the Easy Satellites" Zoom presentation would be appropriate for your convention or club? Always includes are overviews of the ARRL, AMSAT, and ARISS
 and
pre-presentation questions are solicited and welcome.

Contact AMSAT Ambassador Clint Bradford, K6LCS, at http://www.work-sat.com or by phone at 909-999-SATS (7287)

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

Satellite Shorts From All Over

+ NASA is also developing its ACS3 mission to test light-weight deployable booms for solar sails using composite materials that are 75% lighter and

experience 100x less in-space thermal distortion than those used previously. The ACS3 sail is 9 meters on a side and deploys from a 12U CubeSat.
(ANS thanks The Orbital Index for the above information)

+ Recently announced, joining NEA Scout on Artemis I are two CubeSats from JAXA. EQUULEUS is a 6U CubeSat that will demonstrate low-energy trajectory control technologies at the Earth-Moon L2 point, and OMOTENASHI, which will attempt a sort-of soft landing on the Moon with a small rocket motor and an airbag, all in a 12 kg, 6U spacecraft!
(ANS thanks The Orbital Index for the above information)

+ A Tweet reminder from Mitch Ahrenstorff @AD0HJ: AMSAT-Twitter Meetup Net on DMR BrandMeister Talkgroup #98006 | YSF Reflector #11689 | Echolink *AMSAT* #101377 July 22nd 0200Z (Wednesday Night 9:00 PM CDT). Please stop by with your check-in and comments! Net Control tonight will be Mitch @AD0HJ #amsat #dmr #ysf #echolink
(ANS thanks Mitch Ahrenstorff @AD0H for the above information)

+ A number of interesting announcements and updates to QO-100 operation have been posted by AMSAT-Deutchland. This include a lecture by Dr. K-A Eichorn, DK3ZL about the DP0POL/MM Polarstern voyage, A QO-100 linux SDR, and that contests will be allowed on the upper mixed mode range of QO-100. Details are at: https://amsat-dl.org/en/
(ANS thanks AMSAT-Deutchland for the above information)

+MIR-SAT/OSCAR-112 News from Jean Marc Momple(3B8DU): "Dear All, Just to share a great achievement from a local school:
MIR-SAT 1 TLM was received and decoded by Forest Side State Secondary School (Girls) team (LG89sq) today thus the 1st school in 3B8 and uploaded to Satnogs. This is great and hopefully inspire these YL to STEM. Great day for me as Radio Amateurs donated the Ground Station and I coached them. Many other schools in 3B8 were provided with Ground station kits to enable them to receive the signals from MIR-SAT 1 and hopefully we will see soon many schools doing so soon." Congratulations Jean Marc!

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. President's Club donations may be made at https://tinyurl.com/ANS-PresClub or through the AMSAT Store.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact info [at] amsat.org for additional student membership information.

Join AMSAT today at https://launch.amsat.org/

73 and remember to help Keep Amateur Radio in Space,

This week's ANS Editor, Jack Spitznagel, KD4IZ, Associate Editor, AMSAT News Service
KD4IZ at arrl dot net